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January 19, 2011

VIA ELECTRONC FILING

The Honorable Leonard P. Stark
United States District Court
844 King Street
Wilmington, Delaware 19801

> Re: *Personalized User Model LLP v. Google Inc.*, C.A. No. 09-525-LPS

Dear Judge Stark:

Defendant Google Inc., through its counsel, submits this letter in response to the Court's request at the January 11, 2011 hearing on claim construction.

Terms and Phrases in Dispute

The parties have met and conferred further regarding the terms and phrases in dispute. The parties agree that "set" should be construed as "group or collection," and the phrase "set of documents associated with the user" need not be separately construed by the Court.

In response to the Court's questioning and concerns raised by PUM at the hearing and in the meet and confer process, Google proposes alternative constructions, as set forth below.[1] Attached as Exhibit A is an updated chart reflecting the parties' proposed constructions.

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[1]   Google continues to believe that its proposed constructions set forth in its claim construction briefing are appropriate, but in an effort to narrow the issues in dispute also proposes the alternative constructions set forth herein. For the sake of brevity, only the alternative constructions are included in this letter, but all of Google's constructions are included in the chart attached as Exhibit A.

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Specific to the user/User-specific

Term/Phrase	Google's Construction	Plaintiff's Construction
User Model specific to the user ('040 patent, claims 1, 21, and 32)	model restricted to the user, that is created and updated by the learning machine and stored in a data structure	an implementation of a learning machine specific to the user
user specific learning machine ('276 patent, claims 1, 5, and 23)	learning machine restricted to a particular user	a model and/or mathematical function that is used to make a prediction or intelligent decision that attempts to improve performance in part by altering the values/weights given to its variables depending upon past observations or experiences specific to the user
user-specific data files ('040 patent, claims 1, 32)	data files restricted to a particular user	the monitored user interactions with data and a set of documents associated with the user

In response to the Court's and PUM's expressed concerns regarding the word "unique" in Google's constructions, Google proposed alternative constructions generally using the word "restricted" rather than "unique." This is consistent with both parties' dictionary definitions of "specific." (*See* Google's Hearing Slide 6; PUM's Hearing Slide 63; 1/11/11 Tr. 63:10-18.) As Google explained at the January 11 hearing, regardless of the words chosen, these constructions should require that each individual user has his or her own user model, learning machine, and data files. (1/11/11 Tr., 61:5-62:1, 62:18-63:14, 64:8-17.)

Learning Machine

Term/Phrase	Google's Construction	Plaintiff's Construction
learning machine ('040 patent, claims 1 and 32; '276 patent, claims 1, 5 and 23).	program that contains parameters used to estimate a probability and attempts to improve its predictive ability over time and as the program receives new data by altering the values/weights given to its parameters	a model and/or mathematical function that is used to make a prediction and attempts to improve performance in part by altering the values/weights given to its variables depending upon past observations or experiences

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Google memorialized its statement at the January 11 hearing that the learning machine "attempts to improve," rather than must improve. (1/11/11 Tr., 75:2-9.) Google also added that "the predictive ability" of the learning machine is improved over time "by altering the values/weights given to its parameters," borrowing similar language from PUM's proposal.[2]

Google cannot agree to PUM's revised proposal. The "past observations or experiences" language remains inappropriate, as it could include stale data. (1/11/11 Tr., 76:5-18.) Google also continues to object to PUM's use of the "model and/or mathematical function" language for the reasons set forth in its briefing and at the hearing. (*Id.*, 76:19-77:22; Google's Hearing Slides 36-38.)

Document

Term/Phrase	Google's Construction	Plaintiff's Construction
document (*passim*)	an electronic file including text or any type of media	electronic text or any type of electronic media

As indicated at the hearing, Google agrees to construe "document" as "an electronic file including text or any type of media." (1/11/11 Tr., 97:10-18.)

Google cannot agree to PUM's revised construction, "electronic text or any type of electronic media." This suffers from the same faults as PUM's original construction of "document;" a single word could be a document under PUM's construction, which does not make sense in the context of the patent. (*Id.*, 96:4-17; Google's Hearing Slide 81.) The fact that text is "electronic," as PUM now provides, does not cure this problem.

Probability terms

Term/Phrase	Google's Construction	Plaintiff's Construction
probability ('040 patent, claims 1, 11,32; '276 patent, claim 21)	percentage chance	a numerically-based degree of belief or likelihood
estimating probability P(u|d) that an unseen document d is of interest to the user u ('040 patent claims 1, 32)	calculating the percentage chance that an unseen document d is of interest to the user u given knowledge about the unseen document	approximating or roughly calculating a numerically-based degree of belief or likelihood that an unseen document d is of interest to the user u given the information that is known about the unseen document

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[2]   The differing language used by the parties is due to their dispute regarding "parameters."

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Term/Phrase	Google's Construction	Plaintiff's Construction
estimating posterior probability P(u|d,q) that a document d is of interest to the user u given a query q submitted by the user ('040 patent, claim 11)	calculating the percentage chance of the user u being interested, taking into account what is previously known about that user's interests in general, given new knowledge of the document d the user is considering and a search query q submitted by the user	approximating or roughly calculating a numerically-based degree of belief or likelihood that a document d is of interest to the user u given the information that is known about the document and given a query q

PUM seeks to construe "probability," as "a numerically-based degree of belief or likelihood." While PUM has added "numerically-based" to its prior construction of a "degree of likelihood or belief," PUM's revised construction suffers from the same flaws as its earlier constructions. For example, under PUM's construction "unlikely" could be given an arbitrary number 3, "very likely" given 7, and "extremely likely" given the number 9. But, these are not probabilities as used in the patent, any more than the similar examples allowed by PUM's prior construction as discussed at the January 11 hearing. (1/11/11 Tr., 83:13-87:16; Google Hearing Slide 54; *see* '040 patent, 11:51-66 ("consider a set of 100 documents of interest to the user, and a set of 900 documents not of interest to the user. Then $P(i_u=1)=0.1$, and $P(i_u=0) =0.9$.) Nevertheless, PUM has indicated it specifically seeks to include such arbitrary "numbers" as probabilities. Also, PUM's "numerically-based" language is ambiguous and unclear and has no grounding in the intrinsic or extrinsic evidence.

PUM's construction of "estimating" as "approximating or roughly calculating" also is incorrect for the same reasons previously identified by Google and appears designed to leave the same type of wiggle room as its prior constructions. (1/11/11 Tr., 82:9-83:16, 86:11-87-120; Google's Hearing Slides 48-50, 54)[3]

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[3]   PUM proposes that both "probability" and "probability P(u\|d)" be construed identically, and does the same for "posterior probability" and "posterior probability P(u\|d,q)." This is not appropriate, however, as "P(u\|d)" and "P(u\|d,q)" are not simply any probability. Rather, they are a short-hand notation for the probability articulated in the remainder of the claim language, which is already being construed separately.

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Order of steps

Term/Phrase	Google's Construction	Plaintiff's Construction
Order of steps ('040 patent, claims 1 and 32; '276 patent, claims 1 and 23)	The claimed steps must be performed in order, but individual steps may be repeated.	'040 Patent, claims 1 and 32: steps may be performed in a consecutive, non-consecutive, repeating, and/or overlapping order, except that step (d) must be performed (at least once) before step (e) is performed, and step (f) is performed after step (e) 276 Patent, claim 1: steps may be performed in a consecutive, non-consecutive, repeating, and/or overlapping order, except that step [d] must be performed before step [e] and the 'applying' portion of step [f] must be performed before step [g]; the 'identifying' portion of step [f] must be done at least once before the applying portion of step [f], but need not occur after steps [d] and [e] '276 Patent, claim 23: steps may be performed in a consecutive, non-consecutive, repeating, and/or overlapping order, except that step [d] must be performed before the 'applying' portion of step [e], which must be performed before step [f], which must be performed before step [g]; the 'identifying' portion of step [e] must be done at least once before the applying portion of step [e], but need not occur after step [d]

Google's proposal confirms its statement at the hearing that although the method steps must be performed in order, they can be repeated.[4] (1/11/11 Tr., 108:12-110:3, 112:20-113:20; Google's Hearing Slides 101-106.)

Google cannot agree to PUM's revised constructions because they still do not make logical sense. PUM's revised constructions admit that certain steps must be performed in order, but ignore other steps that must also be performed in order. For example, PUM's constructions do not require that step 1(a) of the '040 patent be performed before step 1(b). But, how can the

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[4]   As indicated in Google's briefing, Google initially proposed constructions that allowed step (d) of claims 1 and 32 of the '040 patent and claim 1 of the '276 patent to be performed out of order as a compromise to address the *only* objection PUM raised to the steps being performed in order during the meet and confer process. (*See* GOB, 28 n.7; Google's Hearing Slide 101.) In actuality, logic and the intrinsic evidence show the steps must all be performed in order. (GOB, 28 n.7.)

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system update user-specific data files with monitored user interactions with data in step 1(b) if
user interactions with data have not yet been monitored in step 1(a)? ('040 patent, claim 1;
GOB, 26-27; Google Hearing Slide 101.) PUM's proposal only further shows that Google's
construction should be adopted as even where "most of the steps" of a "method claim refer to the
completed results of the prior step," the steps must be "performed in order." (GAB, 19-20;
1/11/11 Tr.,109:6-9; Google Hearing Slide 105) (citing *E-Pass Techs., Inc. v. 3Com Corp.*, 473
F.3d 1213, 1222 (Fed. Cir. 2007)).

Rebuttal Slides

Google presented a rebuttal slide at the claim construction hearing. Google submits that slide to
the Court attached as Exhibit B.

Google understands that PUM intends to submit a deck of "rebuttal" slides that PUM prepared
prior to the hearing, but were not given to Google until after the hearing. Because Google did
not see these slides before the conclusion of the hearing and did not have the opportunity to
address them with the Court, many of which were not even used at the hearing, Google objects to
PUM's submission of this slide deck.

**Order in Which the Terms and Phrases in Dispute Should be Addressed in the Court's
Claim Construction Order**

In response to the Court's request that the parties suggest an order in which the Court address the
disputed terms and phrases in its claim construction order, the parties have agreed on how the
terms and phrases should be grouped, and the order in which those groups should be addressed.
The parties, however, do not agree on the order the terms and phrases should be addressed within
each group.

Google proposes the following order (the "name" of each group is underlined, and the
terms/phrases are listed below):

learning machine terms and phrases:
User Model specific to the user
user specific learning machine
learning machine
[estimating] parameters of a learning machine[5]

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[5] PUM seeks to reverse this order and start with "parameters," arguing the dispute regarding
specificity to the user centers around "parameters" being specific to the user. (1/11/11 Tr.,117:7-
118:12.) But the phrases are "User Model specific to the user" and "user specific learning
machine," not "parameters specific to the user." (*Id.*, 131:4-132:11.) Google's proposed order
more appropriately addresses the terms in dispute and how they are used in the asserted patents.

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probability terms and phrases:
probability
estimating a probability P(u|d) that an unseen document d is of interest to the user u
estimating a posterior probability P(u|d,q) that a document d is of interest to the user u given a
query q submitted by the user

user-specific data files/user
user-specific data files
user
monitored user interactions with data

document/unseen document
document
unseen document

present/presenting
present/presenting

indefinite phrases
documents [not] of interest to the user
user interest information derived from the User Model

order of steps and antecedent basis
order of steps
antecedent basis

Konig Deposition Transcript

Finally, it is Google's understanding that PUM submitted the complete transcript of the
deposition of Yochai Konig pursuant to the Court's request. To avoid duplication, Google is not
submitting an additional copy of the transcript.

Respectfully,

/s/ David E. Moore

David E. Moore

DEM/msb
997474/34638

Enclosures
cc: Clerk of the Court (via hand delivery)
        Counsel of Record (via electronic mail)